SYSTEMS APPROACH TO TRAINING

SAT OVERVIEW

Introduction

We are going to spend the next hour exploring the SAT process. We'll accomplish this by getting a general overview of the process, then analyzing each of the five phases of the SAT. We will also learn that the outputs of each phase become the input of the next. This lesson forms the foundation for everything you will learn about being a Formal School Instructor/Curriculum Developer/School Administrator.

Importance

The purpose of the SAT process is to close the gap between current and desired job performance thru instruction. By gaining a working knowledge of the SAT process you will be able to assist your students in closing that gap.

Unit Overview

This Unit will present the background of the SAT and the phrases of the SAT process.

Unit Objective

This lesson will assist you in mastering all of the learning objectives throughout the course.

In this Lesson

This Lesson discusses the follow topics:

SAT Background

Mission

The mission of a any instructional system is to:

- determine instructional needs and priorities
- develop effective and efficient solutions
- implement these solutions in a competent manner
- assess the degrees to which the output of the system meets the specified needs.

This statement was one of the assumptions upon which the Center for Educational Technology at Florida State University built its Instructional Systems Development (ISD) model.

History

This model summarized approved techniques and procedures to be followed in the development and conduct of interservice training. Originally commissioned by the Army, responsibility for this project transferred to the Interservice Committee for Instructional Systems Development and its scope was broadened to include requirements from the Air Force, Navy, and Marine Corps. The Marine Corps subsequently adopted this ISD model as its Systems Approach to Training (SAT) model for use in developing and conducting all Marine Corps training and education. Whether referred to as ISD or SAT, this model is a recognized standard governing the instructional process in the private sector and within the Department of Defense (DoD).

Goal

The goal of the SAT is to develop effective and efficient instruction that promotes transfer of learning from the instructional setting to the job.

- Instruction is effective when it meets objectives that are based on job performance requirements.
- Instruction is efficient when it is conducted with minimal effort, expense, or use of resources.

Intent

The SAT is used to close the gap between current and desired job performance through instruction.

SAT Background

Benefits

- Generalized approach
- Adaptable
- Continuous process
- Checks and balances
- Reduces subjective management decisions

MCAIMS

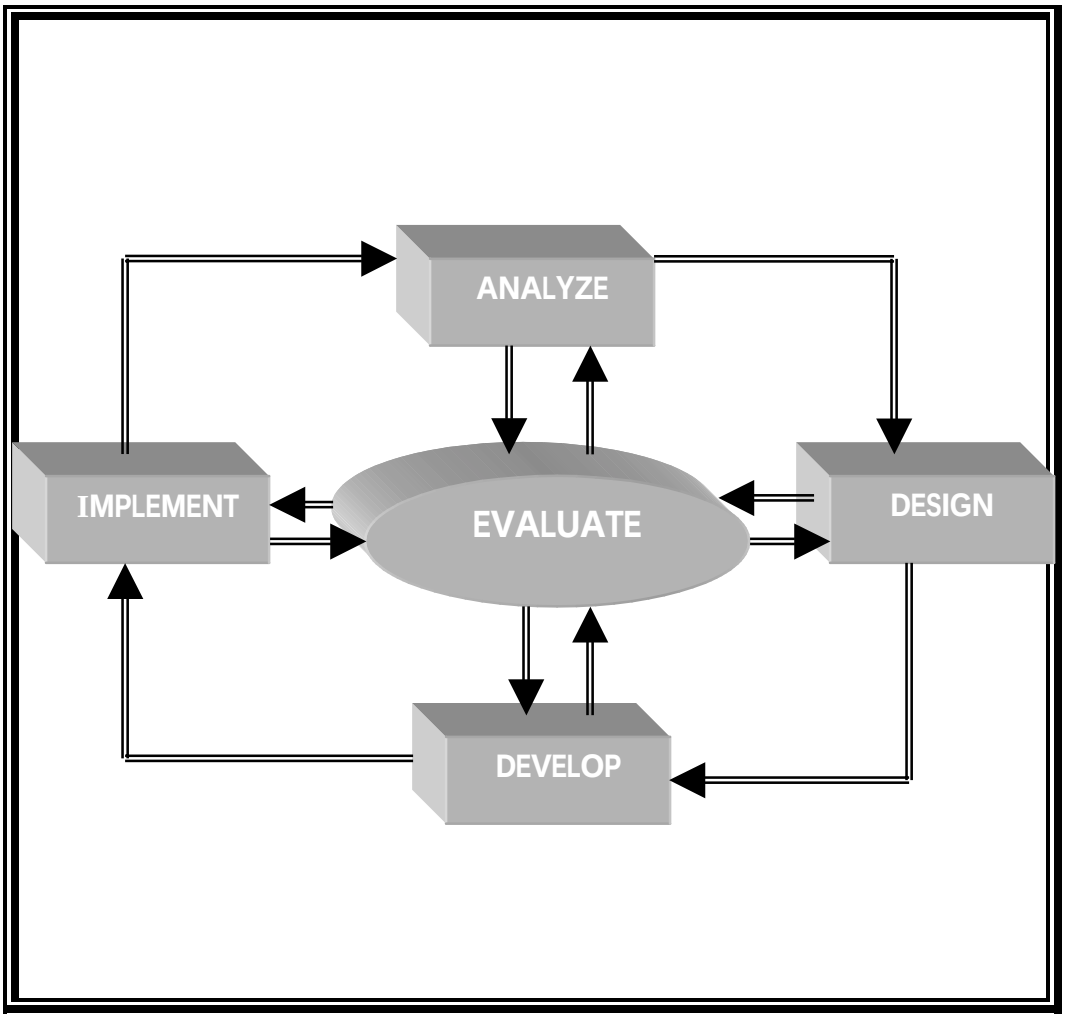
⇒ MCAIMS is the Marine Corps standard automated system for instructional management and school administration.

⇒ School administrators rely on MCAIMS to manage students, instructors, resources, schedules, reporting requirements, etc.

⇒ Instructional staff members (curriculum developers, instructors, testing officers, etc.) use MCAIMS as a tool for automating key functions of the Design, Development, Implementation, and Evaluation phases of SAT. Current policy dictates that all Course Descriptive Data (CDD) and Program of Instructions (POI) be produced and submitted using MCAIMS.

Phases of the SAT

SAT Model



Analyze Phase

Background

This phase is conducted by Occupational Field (OccFld) Sponsors and Subject Matter Experts (SMEs) at TECOMM (CG, TECOMM C472). The analyze phase is occasionally conducted at the FLC's, but it is done under the guidance of MCCDC. This phase defines what a Marine does in an Occupational Field (OccFld) or Military Occupational Specialty (MOS).

A job is broken down into statements of tasks and on the basis of field surveys, statistical analysis, and SME input. Tasks are selected for inclusion in the final task list. During this process, survey results are also analyzed to determine which ranks perform which tasks, and whether a given task should be instructed in the formal school or listed as a candidate for managed on-the-job training (MOJT). The board of SMEs also breaks each task behavior into a logical series of performance steps, records the real world conditions, decides if the task is a core or core plus skill, and determines the standard that must be met. The combination of these Five elements (conditions, behavior, standards, core/core plus, and performance steps), along with any administrative instructions and references, is known as an individual training standard (ITS). The task lists, with associated ITS for all MOS' within an OccFld, are bound together into a single Marine Corps ITS order in the 1510 series. All ITS orders are approved by CG, MCCDC.

Sample ITS

TASK: 9806.03.03 ADMINISTER TESTS

CONDITION(S): Given the requirement to evaluate the student's learning.

STANDARD(S): Per the SAT Guide.

PERFORMANCE STEPS:

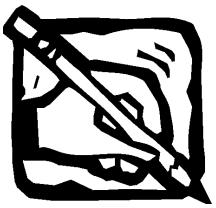
1. Gather test materials.
2. Prepare the environment.
3. Provide opportunity for questions.
4. Clarify directions.
5. Conduct testing.
6. Score/grade test.

REFERENCE(S):
1. Air Force Manual (AFMAN) 36-2236: Handbook for Air Force Instructors
2. Systems Approach to Training (SAT) Guide

INITIAL TRAINING SETTING: Formal School (Standard) Sustainment (6) Req By (Cpl)

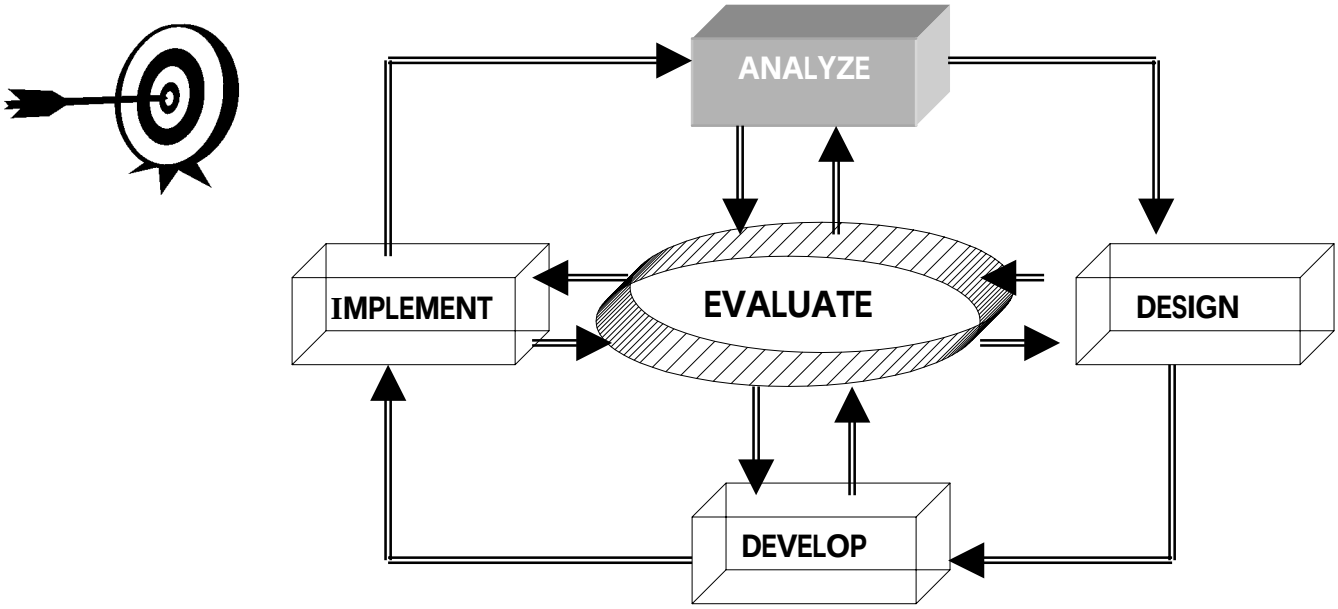
Analyze Phase

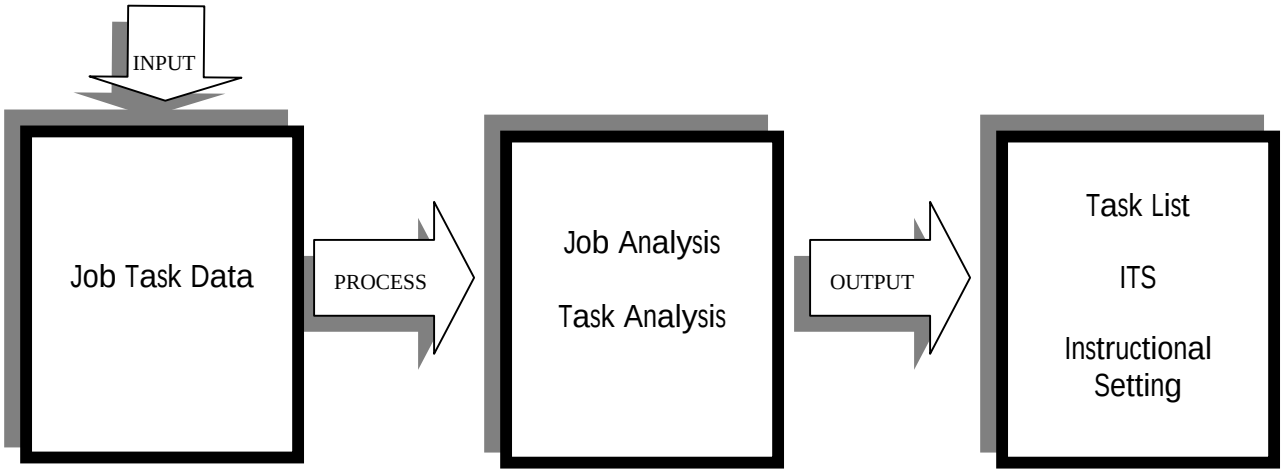
Skills Check

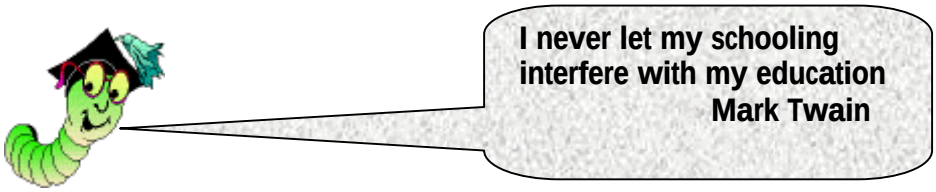


	ANALYZE PHASE
Who conducts the analyze phase?	
Where is this phase conducted?	
What are the outcomes of this phase?	

Analyze Process







Design Phase

Purpose

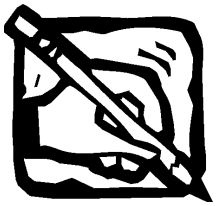
During the Design Phase, curriculum developers turn ITSs into learning objectives. Care is taken to simulate real world conditions as closely as possible. The closer the instruction comes to real world conditions, the more likely it is that the student will transfer learning to the job. The Design Phase is critical because it lays the groundwork for developing instruction. The elements of the Design Phase are:

Elements

Write a Target Population Description (TPD)	The TPD answers the question, "Who will receive the instruction?" It provides a general description of the average student and establishes the prerequisites for a course of study. It is important to consider your TPD when designing instruction, taking into account the average student's knowledge and or skill level.
Conduct Learning Analysis	A learning analysis results in Terminal and Enabling Learning Objectives (TLOs/ELOs). One, and only one, TLO is written for each task in the task list. The behavior, condition(s), and standard(s) of the TLO should reflect real-world conditions when possible. This increases the likelihood that students will transfer learning to the job. Ensure the TLO comes as close as possible to replicating the real-world conditions.
Write Test Items	Test items are constructed for each learning objective. The test items are designed to determine if the student has met the objectives. Test items can be performance-based or knowledge-based, and can test either TLOs or ELOs.
Select Delivery System	This is where the methods and media are selected for instruction. Methods and media should be combined so that they create a smooth flow of instruction.
Sequence Learning Objectives	Learning objectives are sequenced to allow a logical transition from one subject to the next. This permits efficient instruction and serves as a rough course structure.

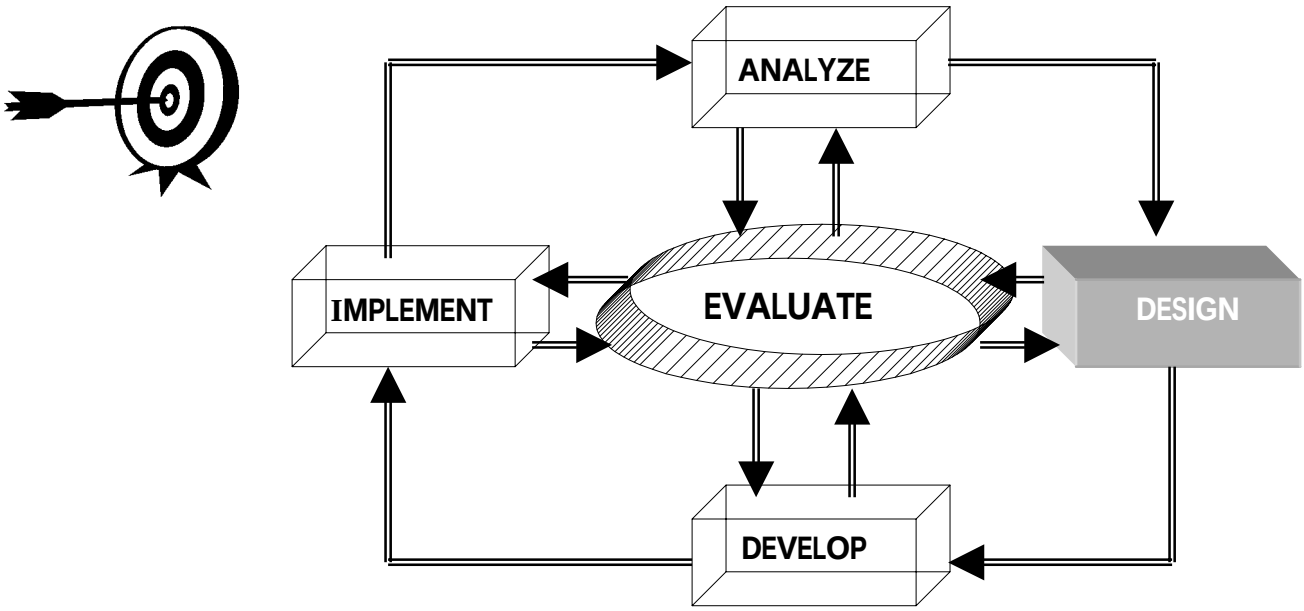
Design Phase (Cont)

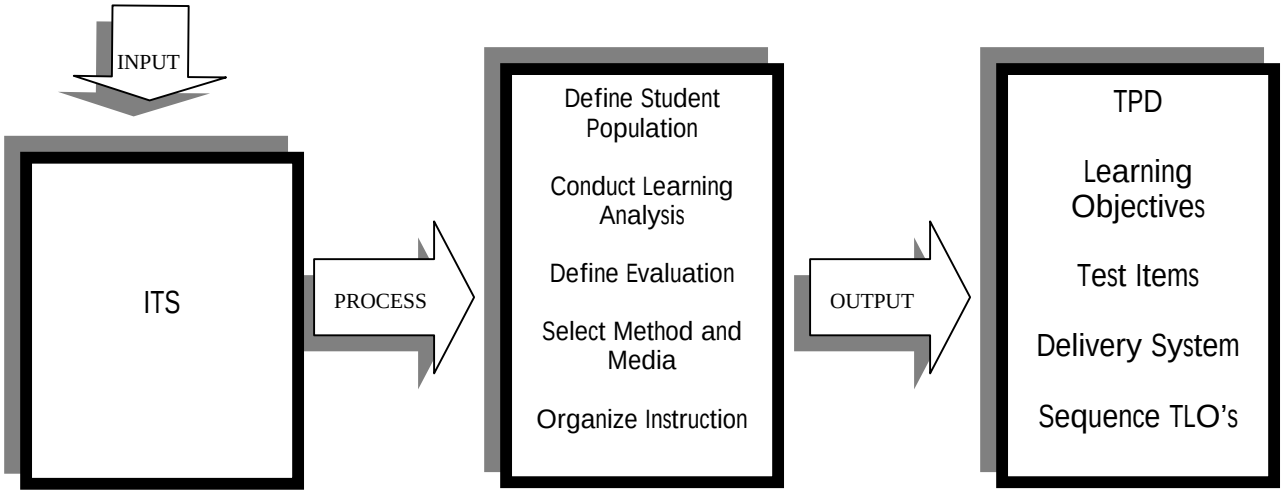
Skills Check

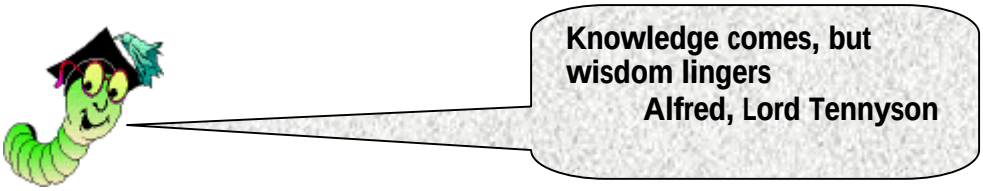


	DESIGN PHASE
Who conducts the design phase?	
Where is this phase conducted?	
What are the outcomes of this phase?	

Design Process







Develop Phase

Purpose

The Develop phase builds upon the information gathered in the Analyze and Design phases. In the Analyze and Design phases, we determined what tasks will be taught and converted them into Learning Objectives (LO's). During the Develop phase, curriculum developers (and sometimes instructors) create an instructional program based on the results of the design phase at the Functional Learning Center (FLC). The first step is to:

1st Step

Develop a Course Schedule	A course schedule breaks a course down into instructional hours and instructional days. At minimum, it will show lesson designators, lesson titles (subject), and lesson times. It may also include scheduled breaks, lunch, Physical Training (PT), required equipment, uniforms, and instructor's name.

SAMPLE COURSE SCHEDULE

TRAINING DAY	DESIG	METHOD	SUBJECT	INSTRUCTOR
1st TD: Monday				
0730 – 0800 (0.50)	IT-00	L	Course Overview	FACULTY
0800 – 0900 (1.00)	IT-01	L	SAT Overview	FACULTY
0900 – 1100 (2.00)	IT-04	L/VT	Effective Communication	FACULTY
1100 - 1230			**PT / LUNCH**	
1230 – 1430 (2.00)	IT-04	L/D/PA(G)	Effective Communication (Icebreakers)	FACULTY
1430 – 1600 (1.50)	IT-08	L/D	Conduct a Lesson	FACULTY

Develop Phase (cont)

Follow-on Steps

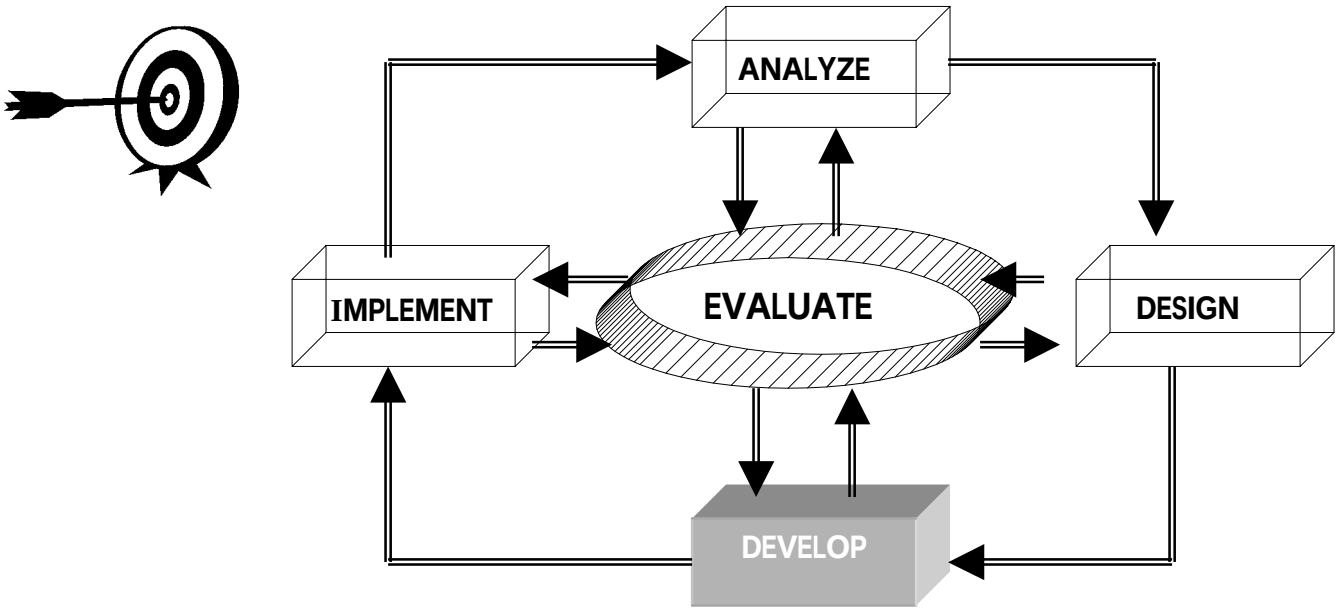
Develop Instruction	This step is concerned with the process of developing lesson plans, student materials and other documents used later in the Implementation phase. The goal of developing instruction is to maximize the transfer of learning.
Develop Media	Media is now developed based upon what was selected during the Design phase. Media is developed to enhance instruction and aid in the transfer of learning. Media should present material in a manner that appeals to many senses, stimulates interest, and allows for a smooth flow of instruction.
Validate Instruction	We validate instruction to determine the effectiveness of instructional material and make any needed revisions prior to implementation. Validation is done to ensure that the mastery of learning objectives. This is done by presenting the material to a sample of the target population to see if the material allows for student mastery of the learning objectives.
Develop Course Descriptive Data (CDD) and Program of Instruction (POI)	The CDD is a detailed summary of the course including resources, length, and curriculum break down. The POI is a detailed description of the course structure, delivery system, length, LO's, and evaluation procedures. Once both of these documents are completed they are then submitted to MCCDC for approval. A formal course of instruction must have an approved POI. These documents are the school's plan for instructing Individual Training Standards.

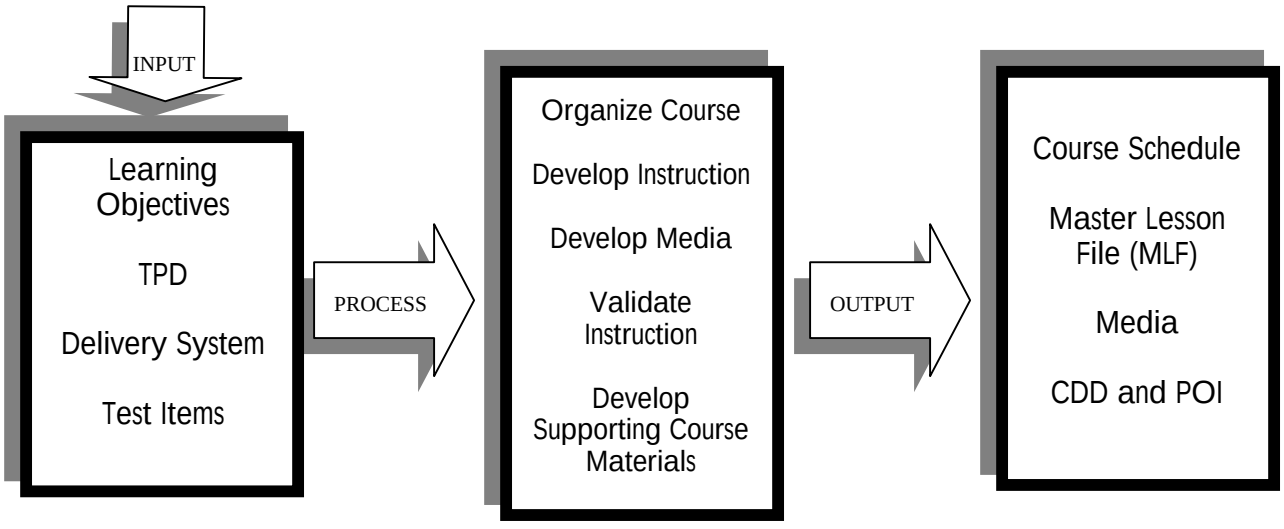
Develop Phase (Cont)

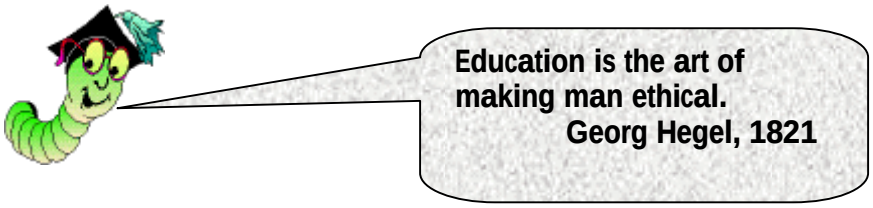
Skills Check

	DEVELOP PHASE
Who conducts the develop phase?	
Where is this phase conducted?	
What are the outcomes of this phase?	

Develop Process







Implement Phase

Purpose

During the Implement Phase of the SAT, instructors within the formal school/ Formal learning Center prepare the class and deliver the instruction. The purpose of this phase is the effective and efficient delivery of instruction to promote student understanding of material, to achieve student mastery of learning objectives, and to ensure a transfer of student knowledge from the instructional setting to the job. The elements of the Implement Phase are:

- Prepare for Instruction
- Implement Instruction

Prepare for Instruction

The preparation portion of the Implement Phase involves all those activities that instructors and support personnel must perform to ready themselves for delivering the instruction. Personnel must be rehearsed on materials. The instructional environment must be prepared to maximize the transfer of learning from the instructional setting to the job.

Implement Instruction

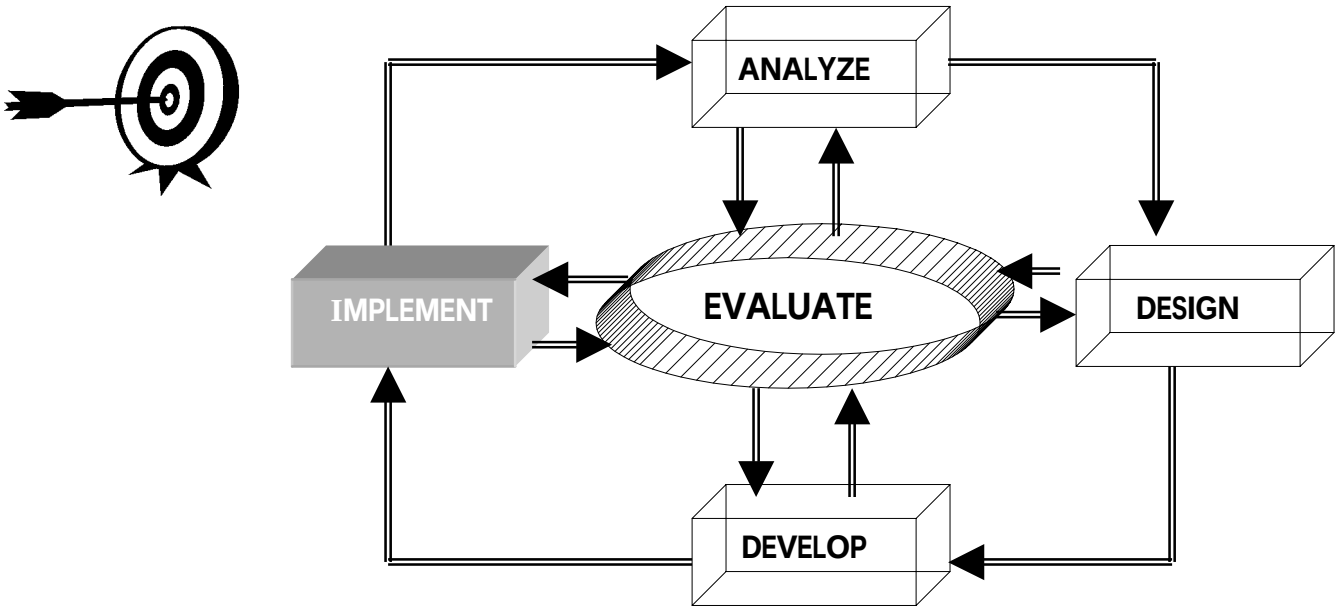
Implementing instruction is the culmination of the analysis, design, and development of instructional materials. The instructional developer designs and develops instructional materials to maximize transfer of learning. However, it is the way the instructor presents the materials that will play a crucial part in determining whether students learn and transfer that learning to the workplace.

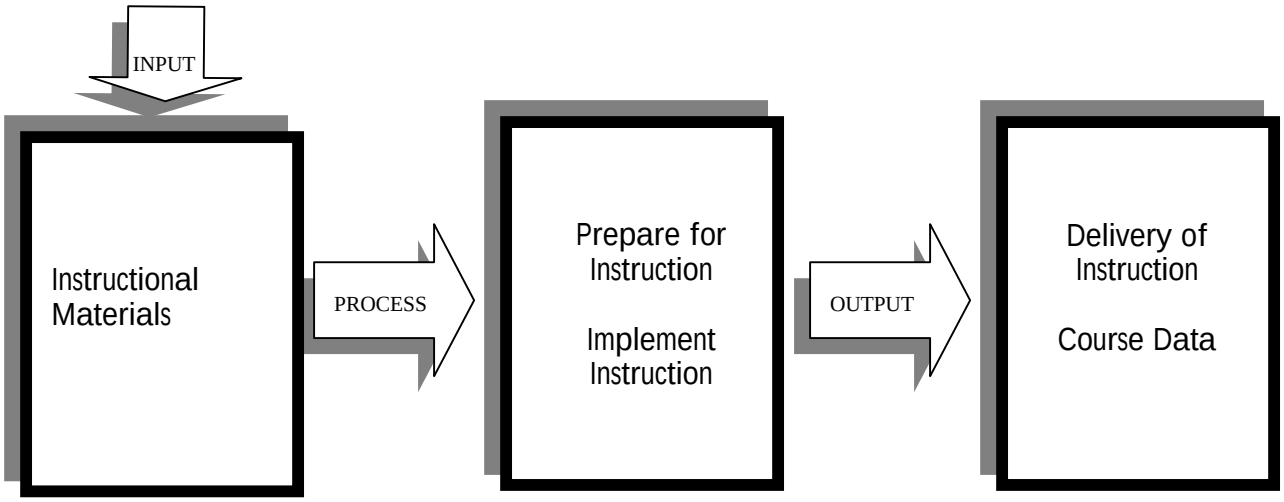
Implement Phase (Cont)

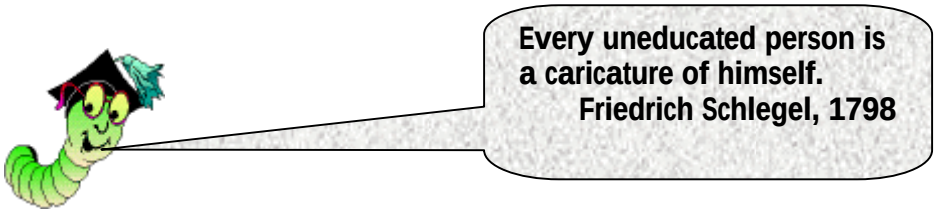
Skills Check

	IMPLEMENT PHASE
Who conducts the Implement phase?	
Where is this phase conducted?	
What are the outcomes of this phase?	

Implement Process







Evaluate Phase

Definition

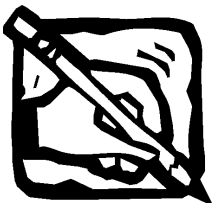
The Evaluation phase measures instructional program effectiveness and efficiency through formative and summative evaluation. The results of the Evaluation phase provide the basis for revising the instructional program, if necessary. Formative evaluation involves validating and revising instruction prior to its implementation. Summative evaluation assesses student performance, course materials, instructor performance, and the instructional environment. The evaluation phase consists of three steps:

Steps of the Evaluation Phase

Plan and Conduct	When planning for summative evaluation, we may choose questionnaires such as Instructional Rating Forms (IRFs), End of Course Critiques, tests, or Field Surveys. Examples of formative evaluation are validating instruction during the design phase, or an instructor rehearsing a class for criticism.
Analyze and Interpret	Once the evaluation has been conducted, the data is analyzed to assess the effectiveness and efficiency of the instructional program. At this time the instructor, curriculum developer or administrator would be required to complete an after instruction report.
Data Management	Data management is the process of documenting and reporting evaluation results. Evaluation results are used to recommend needed changes to instruction if necessary. Once all of the data is interpreted, three courses of action may be taken: • All evaluation data is recorded and preserved for future use should no revisions to the course be deemed necessary • If there is a suspected deficiency in the instructional program, evaluation is continued by collecting additional data. • Revisions to course materials are identified and presented at a Course content Review Board (CCRB).

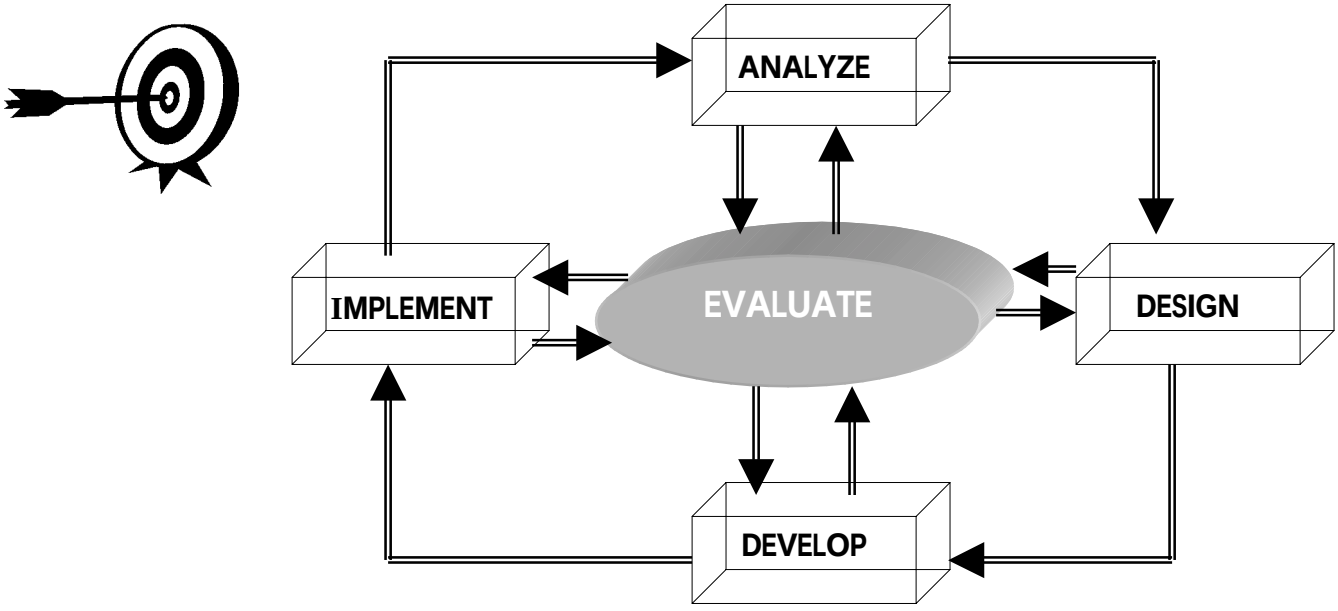
Evaluate Phase (cont)

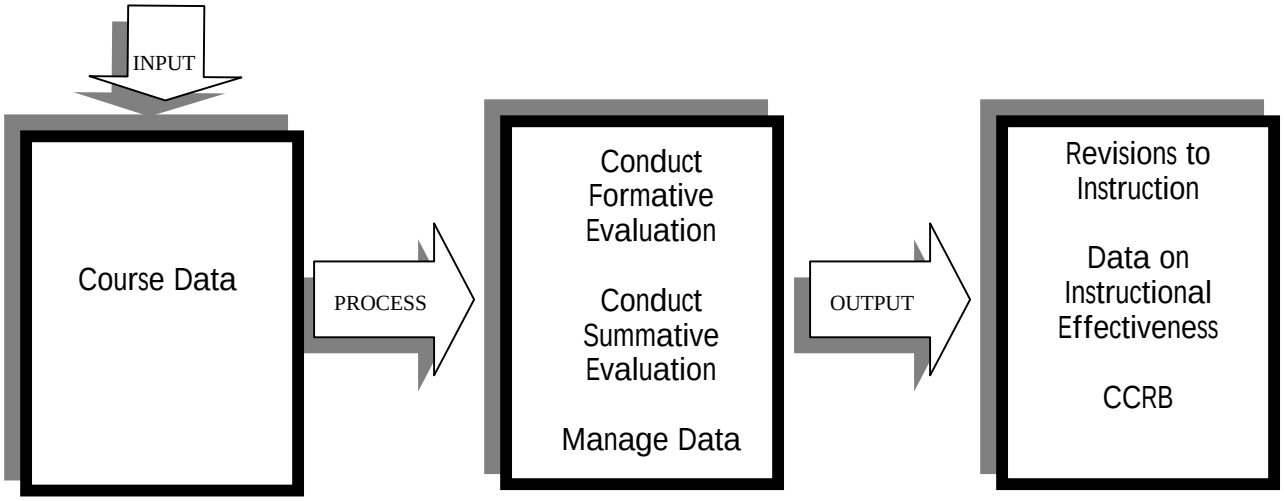
Skills Check

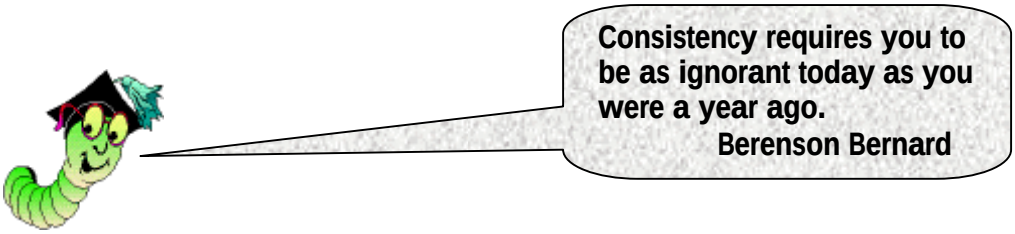


	EVALUATE PHASE
Who conducts the evaluate phase?	
Where is this phase conducted?	
What are the outcomes of this phase?	

Evaluate Process







References

SAT USER'S GUIDE.

Notes